

## REMARKS

Claims 1-40 are pending in this application with claim 1 being amended and claims 34-40 being added by this response. Claims 27-33 have been withdrawn from consideration.

### **Rejection of Claims 1, 3-5, 8, 10, 12-14, 20, 21, 23 and 25 under 35 U.S.C. 102(b)**

Claims 1, 3-5, 8, 10, 12-14, 20, 21, 23 and 25 stand rejected under 35 U.S.C. 102(b) as being anticipated by Amer.

The present claimed invention recites a low carbohydrate composition used in the production of foodstuffs and beverages. The composition includes xylitol, gum, protein and fiber in effective amounts. The protein is added to the composition in an amount of at least 2% by weight. Each of the components of the composition are added in effective amounts and add certain qualities to the finished product. Support for the amendments to the claims is provided throughout the specification and specifically on pages 22 and 23 of the specification disclosing the addition of protein to the composition and pages 23 and 26 disclosing the addition of gum to the composition.

The xylitol, being a natural sweetener of equal sweetness to that of sugar, provides sweetness levels anticipated by the consumer and provide the 'body' to the food stuff that artificial high intensity sweeteners are unable to provide and other natural sweeteners cannot provide on a one to one ratio while maintaining the same level of sweetness. The gum used in this formulation provides the elasticity and binding that is required in order to, for example, entrap air in a foamy product such as baked goods and ice cream. The gum helps maintain a moist 'mouth-feel' in cakes, and it helps keep in suspension insoluble solids that might be part of a foodstuff product, such as almond pieces or blueberries in a baking batter produced using the present claimed composition. The fiber provides water-binding capacity increasing the viscosity of the preparation and providing bulk with no or little caloric value to foodstuffs produced using the present claimed composition. The proteins are critical to low carbohydrate foodstuff preparations produced using the present claimed composition. The proteins are needed to support the structure of foodstuffs produced using the present claimed composition. In regular preparations (including those suggested by Staub et al. and Pepper et al.) carbohydrates such as starches and modified carbohydrates, i.e., polydextrines, are used

primarily to hold the structure of the foodstuff. For example without high levels of proteins in a low carbohydrate preparation, as in the present claimed composition, the cake will 'collapse,' giving a flat and dense foodstuff.

In addition to the flavor, appearance and texture functionalities of the composition described in claim 1 above this composition and its components provide health benefits some of which are illustrated herein. The xylitol has 2.7 calories per gram, thus reducing caloric intake vs. sugar at the same amounts. Also xylitol has been shown to reduced dental carries, improve bone calcification, and reduce throat and ear infections. The gums and fibers within the present claimed composition cause food to satiate hunger at lower solids weight thus reducing caloric consumption. The gums and fibers also help in orderly bowel movement and have been shown to reduce risk of some heart ailments and some cancers. Proteins are important for maintaining healthy body tissues, and low carbohydrate, high protein diets have been accepted by many as a better diet for weight management. Recently published reports suggest that the high carbohydrate diets are at the core of the obesity epidemic in the USA.

Amer recites a non-dairy liquid food product. The product includes adding dietary fiber and calcium to a fruit juice. Unlike the present claimed invention, Amer neither discloses nor suggests the addition of protein in the product, let alone a protein comprising at least 2% by weight of the composition. Furthermore, although xylitol is mentioned in Amer, the xylitol is used as a sweetener and in minimal amounts (about 0.001 to about 1%) if any. Any additional amounts of sweetener would detract from the taste of the product and is generally not needed, since the product is preferably combined with natural fruit drinks and juices which contain their own flavor and sweeteners. As discussed above and throughout the specification, xylitol is used in the present composition as a main source of flavoring and as a substitute for using sugar. It is respectfully submitted that Amer neither discloses nor suggests use of xylitol in the manner discussed and intended by the present claimed invention. Furthermore, such use of xylitol in Amer would not produce the desired or intended result.

In view of the above remarks and amendments to the claims it is respectfully submitted that the present claimed invention is not anticipated by Amer. It is thus further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of Claims 1, 4, 5, 8, 10, 12, 20-23 and 25 under 35 U.S.C. 102(b)**

Claims 1, 4, 5, 8, 10, 12, 20-23 and 25 stand rejected under 35 U.S.C. 102(b) as being anticipated by Pepper et al.

Pepper et al. recite a dietetic sweetening composition. The composition combines xylitol and a bulking agent in a weight ration of about 4 to about 0.05. Pepper et al. is concerned with producing a reduced calorie, cooked confectionary product.

Pepper et al. neither discloses nor suggests the use of a protein as in the present claimed invention. Pepper et al. provides certain examples in which certain ingredients such as skimmed milk powder are added. Such ingredients include some amount of protein. However, Pepper et al. neither disclose nor suggest a composition including a protein in amounts of at least 2% by weight of the composition as in the present claimed invention. Furthermore, although Pepper et al. disclose water soluble or water insoluble bulking agents can be used, Pepper et al. neither disclose nor suggest that both can be used as in the present claimed invention. The present claimed invention recites that the composition includes both fiber and gum. This is unlike Pepper et al. which discloses use of only one.

In view of the above remarks and amendments to the claims it is respectfully submitted that the present claimed invention is not anticipated by Pepper et al. It is thus further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of Claims 1, 4, 5, 22 and 23 under 35 U.S.C. 102(b)**

Claims 1, 4, 5, 22 and 23 stand rejected under 35 U.S.C. 102(b) as being anticipated by Staub et al.

Staub et al. recite low calorie food products including fiber and polysaccharide and/or polyol components. A preferred polyol used in the product is xylitol. Staub et al. is concerned with producing a low calorie product which controls diarrhea induced by the polysaccharide and/or polyol materials therein.

Staub et al. neither disclose nor suggest the use of gums, i.e. non-cellulosic fibers as in the present claimed invention. In fact, Staub et al. teaches away from the use of non-cellulosic fibers specifically stating “Materials wherein the dietary fiber consists essentially of hemi-cellulose or consists essentially of pectin substances and which do not contain any cellulosic fiber have not been found suitable for purposes of the invention.” Additionally, Staub et al. neither disclose nor suggest the use of protein as in the present claimed invention. Furthermore, the present claimed composition is not concerned with the diarrheal effects of xylitol as in Staub et al. Thus, the fiber in the composition of the present claimed composition is added for a completely different purpose from that of Staub et al., i.e. to increase the viscosity of the preparation with no or little added caloric value to foodstuffs produced.

In view of the above remarks and amendments to the claims it is respectfully submitted that the present claimed invention is not anticipated by Staub et al. It is, thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of Claims 1-26 under 35 U.S.C. 103(a)**

Claims 1-26 stand rejected under 35 U.S.C. 103(a) as being anticipated by Amer, Pepper et al. and Staub et al.

As discussed above, Amer, Pepper et al. and Staub et al., all neither disclose or suggest a composition as in the present claimed invention. None of these references specifically discloses a protein within the composition, let alone a protein in an amount of at least 2% by weight. Only Pepper et al. even disclose a product produced wherein ingredients which may include a protein are included in certain amounts. However, Pepper et al. neither discloses nor suggests including a protein nor does Pepper et al. disclose or suggest a protein added in an amount of at least 2% by weight as in the present claimed invention. As previously stated, the proteins are critical to low carbohydrate foodstuff preparations produced using the present claimed composition. The proteins are needed to support the structure of foodstuffs produced using the present claimed composition. In regular preparations (including those suggested by Staub et al. and Pepper et al.) carbohydrates such as starches and modified carbohydrates, e.g. polydextrines, are used primarily to hold the structure of the foodstuff. For example without high levels of proteins in a low carbohydrate

preparation, as in the present claimed composition, the cake will 'collapse,' giving a flat and dense foodstuff. Thus, the use of proteins are critical to the present claimed invention and are neither disclosed nor suggested in any of Amer, Pepper et al. and Staub et al. Furthermore, as these references are not concerned with the production of low-carbohydrate foodstuffs, the addition of protein is neither needed nor desirable.

In view of the above remarks and amendments to the claims it is respectfully submitted that none of these references disclose or suggest the composition of the present claimed invention.

The only patent which discloses use of a gum in combination with xylitol and fiber is Amer. However, Amer neither discloses nor suggests including a protein in the combination as in the present claimed invention. Furthermore, Amer only refers to use of xylitol as a possible sweetener in amounts between about .001 to about 1%. It would thus be improper to combine Amer with either Pepper et al. or Staub et al. as both Pepper et al. and Staub et al. disclose significantly higher concentrations of xylitol and are for production of completely different products. Furthermore, the disclosed amounts of xylitol recited in these patents provide certain advantages and qualities which are necessary for the disclosed products. Pepper et al. discloses a preferred level of xylitol of from the mid teens (about 15%) to the high 30% range. Staub et al. discloses a range of more than 10% by dry weight. Combining Pepper et al. or Staub et al. with the disclosure of Amer and using the xylitol content of Amer would not produce a product having the desired qualities of any of the references.

Furthermore, it is thus respectfully submitted that a combination of Amer with either of Staub et al. or Pepper et al. would produce a product which is contrary to the teachings of each. Pepper et al. and Staub et al. are concerned with production of products using xylitol as a substitute for sugar.

Amer is only concerned with using a minimal amount of sweetener such as xylitol to add to the flavor. The main purpose of Staub et al. is to control the diarrheal effects caused by the significant amounts of xylitol contained therein. Amer discloses a product containing a minimal amount of xylitol, if any, which is used solely as a sweetener. Thus, the purpose of Staub et al. does not apply to Amer as the minimal amounts of xylitol if any contained therein do not produce the diarrheal effect which it is the purpose of Staub et al. to control.

Furthermore, use of the amounts of xylitol disclosed by Amer would not produce a product having the flavor desired by Staub et al.

Additionally, producing the product disclosed by Amer using the xylitol concentrations disclosed by Staub et al. would also produce a product which would not have the desired qualities and taste as that desired by Amer. Producing a non-dairy drink having over 10 times the amount of xylitol will severely affect the qualities and taste of the drink produced.

Pepper et al. is directed to produce a low calorie cooked confectionary product (such as hard candy). In this product xylitol is used as a substitute for sugar in amounts of more than 10% dry weight. Using such high amounts of xylitol by Pepper et al. provides certain advantages such as regulating the viscosity of the product during production as well as suppressing the formation of new dental caries. By combining Pepper et al. with Amer, use of xylitol in concentrations disclosed by Amer would not be able to produce a product having a taste or the qualities as desired by Pepper et al. nor would the end product provide the advantages desired by Pepper et al. Furthermore, producing the product of Amer including xylitol concentrations as disclosed by Pepper et al. would not produce a desirable product as the xylitol concentration disclosed by Amer is slightly more than a trace for purposes of sweetening whereby the taste is provided by the juice in which the composition is mixed. The concentrations of xylitol used in Pepper et al. are for flavoring and to provide other additional benefits such as providing a low calorie substitute for sugar, regulating the viscosity of the product during production as well as suppressing the formation of new dental caries and are in amounts in excess of 10 times above the upper limit disclosed by Amer. Thus, a combination of Amer with Pepper et al. would not produce a product having an acceptable taste or acceptable properties.

In view of the above remarks it is respectfully submitted that it would be improper to combine these references as they all produce different products and include substantially different concentrations of certain ingredients. The combination of these references in any manner would not only not produce the present claimed invention, but also would not produce a palatable product which is able to provide the benefits of any of the disclosed products.

In view of the above remarks and amendments to the claims it is respectfully submitted that the present claimed invention is not unpatentable over Amer, Pepper et al. and Staub et al. when taken alone or in any combination. It is, thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

New claims 36-38 are directed to baked foodstuffs and include limitations similar to claim 1. Neither Amer nor Pepper et al. are concerned with baked products. Staub et al. mentions that baked products may be produced. However, Staub et al. is concerned with low calorie products, while the present claimed invention is concerned with a low-carbohydrate composition. Furthermore, as discussed above Staub et al. neither disclose nor suggest the use of gums, i.e. non-cellulosic fibers as in the present claimed invention. In fact, Staub et al. teaches away from the use of non-cellulosic fibers specifically stating "Materials wherein the dietary fiber consists essentially of hemi-cellulose or consists essentially of pectin substances and which do not contain any cellulosic fiber have not been found suitable for purposes of the invention." Furthermore, Staub et al. neither disclose nor suggest the use of protein as in the present claimed invention. It is therefore respectfully submitted that claims 36-38 are allowable for the same reasons discussed above with respect to claim 1.

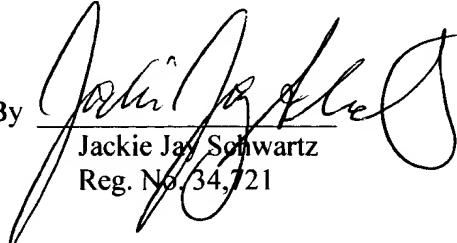
A check in the amount of \$63.00 is enclosed to cover the fee for 7 claims over the 20 allowed and not previously paid for.

In the event there are further issues remaining in any respect the Examiner is respectfully requested to telephone the undersigned attorney at the address listed below to reach agreement to expedite issuance of this application.

Since the present claims set forth the present invention patentably and distinctly, and are not taught by the cited art either taken alone or in combination, this response is believed to place this case in condition for allowance and the Examiner is respectfully requested to reconsider the matter, and to allow all of the claims in this case.

Respectfully submitted,

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Version with Markings to Show Changes Made

1. (Amended) A low carbohydrate composition used in the production of foodstuffs and beverages, said composition comprising xylitol, gum, protein and fiber, wherein said protein is in an amount at least equal to 2% by weight.

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